

IN THE SPECIFICATION:

Please amend paragraph number [0035] as follows:

[0035] With reference to FIG. 1, a packaged semiconductor device 10 is shown. Semiconductor device 10 is a packaged semiconductor device of the type disclosed in U.S. Patent Application Ser. No. 09/259,142, filed on February 26, 1999 (hereinafter “the ‘142 Application”), and assigned to the same assignee as that of the present invention, the disclosure of which is hereby incorporated herein by this reference. Thus, the package 12 of semiconductor device 10 includes a plurality of superimposed, contiguous, mutually adhered layers 14 of material. The uppermost layer or layers 14 of package 12 have one or more apertures 18 formed therethrough, the internal, inner lateral edges 17 of which define an outer periphery of a marking 16, or a mark, exposed at a surface 20 of package 12. Thus, marking 16 is recessed in the uppermost layers 14 of package 12. Of course, marking 16 may include some characters or symbols with inner peripheries (e.g., “O” and “8”). The inner peripheries of such characters or symbols are defined by the outer lateral edges 19 of isolated regions 26 of layers 14.

Please amend paragraph number [0048] as follows:

[0048] With continued reference to FIG. 9 and as noted above, a 3-D CAD drawing of an object (e.g., marking 36 of FIGs. 4 and 5) to be fabricated in the form of a data file is placed in the memory of a computer 82 controlling the operation of apparatus ~~80 if 80, if~~ computer 82 is not a CAD computer in which the original object design is effected. In other words, an object design may be effected in a first computer in an engineering or research facility and the data files transferred via wide or local area network, tape, disc, CD-ROM, or otherwise as known in the art to computer 82 of apparatus 80 for object fabrication.

Please amend paragraph number [0060] as follows:

[0060] In practicing the present invention, a commercially available stereolithography apparatus operating generally in the manner as that described above with respect to apparatus 80 of FIG. 9 is preferably employed, but with further additions and modifications as hereinafter

described for practicing the method of the present invention. For example and not by way of limitation, the SLA-250/50HR, SLA-5000 and SLA-7000 stereolithography systems, each offered by 3D Systems, Inc. of Valencia, California, are suitable for modification.

Photopolymers believed to be suitable for use in practicing the present invention include Cibatool SL 5170 and SL 5210 resins for the SLA-250/50HR system, Cibatool SL 5530 resin for the SLA-5000 and SLA-7000 systems, and Cibatool SL 7510 resin for the SLA-7000 system. All of these photopolymers are available from Ciba Specialty Chemicals Corporation. Inc.

Please amend paragraph number [0062] as follows:

[0062] Referring again to FIG. 9, it should be noted that an apparatus 80 that is useful in the method of the present invention includes a camera 140 which is in communication with computer 82 and preferably located, as shown, in close proximity to optics and scan controller, such as mirror 94, located above surface 100 of support platform 90. Camera 140 may be any one of a number of commercially available cameras, such as capacitive-coupled discharge (CCD) cameras available from a number of vendors. Suitable circuitry as required for adapting the output of camera 140 for use by computer 82 may be incorporated in a board 142 installed in computer 82, which is programmed as known in the art to respond to images generated by camera 140 and processed by board 142. Camera 140 and board 142 may together comprise a so-called "machine vision system" and, specifically, a "pattern recognition system" (PRS), the operation of which will be described briefly below for a better understanding of the present invention. Alternatively, a self-contained machine vision system available from a commercial vendor of such equipment may be employed. For example, and without limitation, such systems are available from Cognex Corporation of Natick, Massachusetts. For example, the apparatus of the Cognex BGA Inspection PackageTM or the SMD Placement Guidance PackageTM may be adapted to the present invention, although it is believed that the MVS-8000TM product family and the Checkpoint[®] product line, the latter employed in combination with Cognex PatMaxTM software, may be especially suitable for use in the present invention.

Please amend paragraph number [0065] as follows:

[0065] One or more semiconductor devices 10', wafers 72 (see FIG. 8), FIG. 9), or other substrates may be placed on surface 100 of platform 90 to be packaged and labeled with markings 36. If one or more semiconductor devices 10', wafers 72, or other substrates are to be held on or supported above platform 90 by stereolithographically formed base supports 122, one or more layers of material 86 are sequentially disposed on surface 100 and selectively altered by use of laser 92 to form base supports 122.

Please amend paragraph number [0066] as follows:

[0066] Camera 140 is then activated to locate the position and orientation of each semiconductor device 10', including those on a wafer 72 (see FIG. 8), FIG. 9), or other substrate upon which markings 36 are to be fabricated. The features of each semiconductor device 10', wafer 72, or other substrate are compared with those in the data file residing in memory, the locational and orientational data for each semiconductor device 10', wafer 72, or other substrate are then also being stored in memory. It should be noted that the data file representing the design, size, shape and topography for each semiconductor device 10' or other substrate may be used at this juncture to detect physically defective or damaged semiconductor devices 10' or other substrates prior to fabricating a package 12' or markings 36 thereon or before conducting further processing or assembly of semiconductor device 10' or other substrates. Accordingly, such damaged or defective semiconductor devices 10' or other substrates can be deleted from the stereolithographic labeling process, from further processing, from further testing, or from assembly with other components. It should also be noted that data files for more than one type (size, thickness, configuration, surface topography) of each semiconductor device 10' or other substrate may be placed in computer memory and computer 82 programmed to recognize not only the locations and orientations of each semiconductor device 10' or other substrate, but also the type of semiconductor device 10' or other substrate at each location upon platform 90 so that material 86 may be at least partially consolidated by laser beam 98 in the correct pattern and to the height required to define markings 36 in the appropriate, desired locations on each

semiconductor device 10' or other substrate. Camera 140 is then activated to locate the position and orientation of each semiconductor device 10', including those on a wafer 72 (see FIG. 8), FIG. 9, or other substrate upon which markings 36 are to be fabricated. The features of each semiconductor device 10', wafer 72, or other substrate are compared with those in the data file residing in memory, the locational and orientational data for each semiconductor device 10', wafer 72, or other substrate are then also being stored in memory. It should be noted that the data file representing the design, size, shape and topography for each semiconductor device 10' or other substrate may be used at this juncture to detect physically defective or damaged semiconductor devices 10' or other substrates prior to fabricating a package 12' or markings 36 thereon or before conducting further processing or assembly of semiconductor device 10' or other substrates. Accordingly, such damaged or defective semiconductor devices 10' or other substrates can be deleted from the stereolithographic labeling process, from further processing, from further testing, or from assembly with other components. It should also be noted that data files for more than one type (size, thickness, configuration, surface topography) of each semiconductor device 10' or other substrate may be placed in computer memory and computer 82 programmed to recognize not only the locations and orientations of each semiconductor device 10' or other substrate, but also the type of semiconductor device 10' or other substrate at each location upon platform 90 so that material 86 may be at least partially consolidated by laser beam 98 in the correct pattern and to the height required to define markings 36 in the appropriate, desired locations on each semiconductor device 10' or other substrate.

Please amend paragraph number [0067] as follows:

[0067] Continuing with reference to FIGs. 9 and 10, wafer 72 or the one or more semiconductor devices 10' or other substrates on platform 90 may then be submerged partially below the ~~surface 88 level~~ surface level 88 of unconsolidated material 86 to a depth greater than the thickness 87 of a first layer of material 86 to be at least partially consolidated (e.g., cured to at least a semisolid state) to form a first material layer 14a and, thus, the lowest layer 130A of each

marking 36 at the appropriate location or locations on each semiconductor device 10' or other substrate, then raised to a depth equal to the layer thickness, ~~surface 88~~ surface level 88 of material 86 being allowed to become calm. Photopolymers that are useful as material 86 exhibit a desirable dielectric-constant exhibit, constant, exhibit low shrinkage upon cure, are of sufficient (i.e., semiconductor grade) purity, exhibit good adherence to other semiconductor device materials, and have a similar coefficient of thermal expansion (CTE) to the primary materials of the substrates to which markings 36 are to be secured. Exemplary photopolymers exhibiting these properties are believed to include, but are not limited to, the above-referenced resins from Ciba Specialty ~~Chemical Corporation~~ Chemicals Inc. One area of particular concern in determining resin suitability is the substantial absence of mobile ions, ~~and~~ specifically fluorides.

Please amend paragraph number [0069] as follows:

[0069] Laser 92 is then activated and scanned to direct beam 98, under control of computer 82, toward specific locations of ~~surface 88~~ surface level 88 relative to each semiconductor device 10' or other substrate to effect the aforementioned partial cure of material 86 to form a first layer 130A of each marking 36. Platform 90 is then lowered into reservoir 84 and raised a distance equal to the desired thickness of another layer 130B of each marking 36 to provide another material layer 14b over wafer 72 or one or more semiconductor devices 10', and laser 92 is activated to form another layer 130B of each marking 36 under construction from material layer 14b. This sequence continues, layer by layer, until each of the layers 130 of markings 36 have been completed.